

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KENICHI SAWADA

Appeal No. 2005-0752
Application No. 09/484,540¹

HEARD: MAY 18, 2005

Before JERRY SMITH, BLANKENSHIP and SAADAT, Administrative Patent Judges.

SAADAT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the Examiner's final rejection of claims 1-20 and 26-34. Claims 21-25 have been canceled.

We reverse.

BACKGROUND

Appellant's invention is directed to an image processing apparatus for providing support for a high definition, but

¹ Application for patent filed January 18, 2000, which claims the foreign filing priority benefit under 35 U.S.C. § 119 of Japanese Applications No. 11-11443, filed January 20, 1999 and No. 11-62584, filed March 10, 1999.

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inexpensive and simple configuration that improves the quality reproduction of black letters or lines.

Representative independent claim 1 is reproduced below:

1. An image processing apparatus for processing image data indicating a density of each pixel of an image, the apparatus comprising:

an edge detecting portion for detecting an edge area in the image in accordance with the image data;

an edge enlarging portion for enlarging the edge area detected by the edge detecting portion; and

a density correcting portion for increasing or decreasing the density of the image data of the edge area enlarged by the edge enlarging portion,

wherein the image data includes a black component and color components, and the density correcting portion increases at least a density of the black component.

The Examiner relies on the following references in rejecting the claims:

| | | |
|----------------------------|-----------|---------------|
| Hirota | 5,357,353 | Oct. 18, 1994 |
| Katayama et al. (Katayama) | 5,361,147 | Nov. 1, 1994 |
| Tamura et al. (Tamura) | 5,430,557 | Jul. 4, 1995 |
| Suzuki | 5,742,410 | Apr. 21, 1998 |

Claims 1, 2, 7-12, 17-20, 26, 27 and 31-34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Katayama and Suzuki.

Claims 4-6, 14-16 and 28-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Katayama and Suzuki and further in view of Tamura.

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Claims 3, 13 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Katayama and Suzuki and further in view of Hirota.

We make reference to the answer (Paper No. 18, mailed May 17, 2004) for the Examiner's reasoning and to the appeal brief (Paper No. 17, filed February 17, 2004) and the reply brief (Paper No. 19, filed July 19, 2004) for Appellant's arguments thereagainst.

OPINION

The Examiner relies on Katayama for teaching an image processor with portions for detecting and enlarging an edge area and for correcting the density of the enlarged area, except for black and color components in the image data wherein a density of the black component of the image data is increased (answer, page 4). The Examiner further relies on Suzuki for teaching the missing black and color components and takes the position that the combination would have taught the claimed subject matter since the accurately blackened edged area would have improved the color correction and encoding (id.).

Appellant argues that the proposed combination lacks proper motivation and would not have resulted in the claimed structure, as the Examiner provides no technical principle for combining a process for eliminating a black character in Katayama with the

process for emphasizing a black character in Suzuki (brief, page 4). Additionally, Appellant asserts that the claimed "edge enlarging portion" is different from what the Examiner cited in Katayama (col. 2, lines 63-66) as "means for thickening the line image portion of the specific color," which is not further described in the reference (reply brief, pages 3 & 4). Appellant points out that Katayama merely describes edge enhancement, edge removal and the selection of an enlarged area peripheral to an edge and identifies the edge portion of the image as being undesirable for causing degradation (reply brief, page 5).

In response, the Examiner argues that Katayama does not eliminate the black character, but substitutes it by the average value or another value so that the black character pattern is encoded and its quality is maintained (answer, pages 7 & 8). However, the Examiner refers to the substitution of the black character area with the average or the most frequent value in Katayama (col. 15, lines 2-5) to conclude that the substitution "can theoretically be extended to a [sic] increased black density value" (answer, page 8).

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). To reach a conclusion of

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obviousness under § 103, the examiner must produce a factual basis supported by teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration. Such evidence is required in order to establish a prima facie case. In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). The Examiner must not only identify the elements in the prior art, but also show "some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead the individual to combine the relevant teachings of the references." In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

A review of the applied prior art confirms that Katayama relates to encoding or decoding image data and to extracting and encoding a thin image portion of a specific color of an image in order to minimize image quality degradation (abstract). As pointed out by Appellant (reply brief, pages 5-7; oral hearing), instead of edge enlargement, Katayama provides for separate encoding of black characters after a portion around the black character is substituted with the average value within the block (col. 14, line 66 through col. 15, line 7). Although Katayama mentions "enlarging means for enlarging the edge portion of the specific color discriminated by said discrimination means," (col. 27, lines 39-41), we agree with Appellant that the disclosure

includes no detailed description of any enlarged edge and the change in its density. Additionally, we find the Examiner's conclusion (answer, page 8) that substitution can be extended to an increased black density value, to be merely speculative since the substitution of the eliminated edge portion is a part of selecting an appropriate encoding method to improve the image, and not increasing the density of the black component.

Suzuki, on the other hand, discloses a color image processing apparatus using a conversion coefficient such that the chroma is decreased as the black edge degree increases and the chroma is increased as the color edge degree is increased (col. 5, lines 12-16). The image correction means, therefore, causes a black character to have a pure black color and a color character to have a higher chroma color (col. 5, lines 16-18). Thus, we cannot agree with the examiner that the image reproduction method of Suzuki suggests or justifies modifying the decoding/encoding technique of Katayama.

As discussed above, although some kind of increased density of the character edge is recognized by Suzuki, we do not find this specific teaching in the reference to be indicating that the density of the black component of an image having both black and color components is increased. In fact, the color enhancement scheme described by Suzuki reproduces either a black character in

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pure black or a color character in higher chroma color depending on their respective edge color difference. Therefore, as the Examiner has failed to set forth a prima facie case of obviousness, we do not sustain the 35 U.S.C. § 103 rejection of claims 1, 2, 7-12, 17-20, 26, 27 and 31-34.

Turning now to the 35 U.S.C. § 103 rejection of the remaining claims, we note that the Examiner further relies on Tamura for teaching an edge width controller (answer, page 5) with respect to claims 4-6, 14-16 and 28-30 and on Hirota for teaching changes in the edge characteristics with respect to claims 3, 13 and 27. However, since the Examiner has not pointed to any disclosure in Tamura or Hirota that relates to the claimed increased black density, the deficiencies of Katayama as discussed above has not been overcome. Accordingly, we do not sustain the 35 U.S.C. § 103 rejection of claims 3-6, 13-16 and 27-30.

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CONCLUSION

In view of the foregoing, the decision of the Examiner
rejecting claims 1-20 and 26-34 under 35 U.S.C. § 103 is
reversed.

REVERSED

Gerry Smith

JERRY SMITH)
Administrative Patent Judge)

Howard B. Blankenship

HOWARD B. BLANKENSHIP)
Administrative Patent Judge)

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